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<120> Sequences of an Ih ion channel and use thereof

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<141> 2000-08-17

<150> PCT/EP99/00942

<151> 1999-02-12

<150> DE 198 06 581.7

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 <222> (2009)..(2009)
 <223> "n" may be any nucleotide.

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<211> 794

<212> DNA

<213> Rattus rattus

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<220>

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<223> "n" may be any nucleotide.

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29

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<212> DNA

<213> Artificial Sequence

<220>

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<222> (11)..(11)

<223> "n" may be any nucleotide.

<220>

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<222> (20)..(20)

<223> "n" may be any nucleotide.

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<222> (23)..(23)

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<210> 18

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<213> Strongylocentrotus purpuratus

<400> 18

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Pro Pro Pro Leu Lys Asn Gly Gly Arg Gly Gln Lys Pro Pro Lys Ile
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 Asp Thr Gly Ala Leu Gly Ser Asp Pro Ser Ser Thr Met Gln Ala Met
 145 150 155 160
 Ala Lys Pro Val Gly Phe Leu Gln Arg Gln Leu Trp Thr Val Leu Gln
 165 170 175
 Pro Ser Asp Asn Arg Leu Ser Met Lys Leu Phe Gly Ser Lys Lys Gly
 180 185 190
 Leu Gln Lys Glu Lys Tyr Arg Leu Arg Lys Ala Gly Val Leu Ile Ile
 195 200 205
 His Pro Cys Ser His Phe Arg Phe Tyr Trp Asp Leu Leu Met Leu Cys
 210 215 220
 Leu Ile Met Ala Asn Val Ile Leu Leu Pro Val Val Ile Thr Phe Phe
 225 230 235 240
 His Asn Lys Asp Met Ser Thr Gly Trp Leu Ile Phe Asn Cys Phe Ser
 245 250 255
 Asp Thr Phe Phe Ile Leu Asp Leu Ile Cys Asn Phe Arg Thr Gly Ile
 260 265 270
 Met Asn Pro Lys Ser Ala Glu Gln Val Ile Leu Asn Pro Arg Gln Ile
 275 280 285
 Ala Tyr His Tyr Leu Arg Ser Trp Phe Ile Ile Asp Leu Val Ser Ser
 290 295 300
 Ile Pro Met Asp Tyr Ile Phe Leu Leu Ala Gly Gly Gln Asn Arg His
 305 310 315 320
 Phe Leu Glu Val Ser Arg Ala Leu Lys Ile Leu Arg Phe Ala Lys Leu
 325 330 335
 Leu Ser Leu Leu Arg Leu Leu Arg Leu Ser Arg Leu Met Arg Phe Val
 340 345 350
 Ser Gln Trp Glu Gln Ala Phe Asn Val Ala Asn Ala Val Ile Arg Ile
 355 360 365

Cys	Asn	Leu	Val	Cys	Met	Met	Leu	Leu	Ile	Gly	His	Trp	Asn	Gly	Cys	
370						375					380					
Leu	Gln	Tyr	Leu	Val	Pro	Met	Leu	Gln	Glu	Tyr	Pro	Asp	Gln	Ser	Trp	
385					390					395					400	
Val	Ala	Ile	Asn	Gly	Leu	Glu	His	Ala	His	Trp	Trp	Glu	Gln	Tyr	Thr	
				405					410					415		
Trp	Ala	Leu	Phe	Lys	Ala	Leu	Ser	His	Met	Leu	Cys	Ile	Gly	Tyr	Gly	
			420					425					430			
Lys	Phe	Pro	Pro	Gln	Ser	Ile	Thr	Asp	Val	Trp	Leu	Thr	Ile	Val	Ser	
		435					440					445				
Met	Val	Ser	Gly	Ala	Thr	Cys	Phe	Ala	Leu	Phe	Ile	Gly	His	Ala	Thr	
	450					455					460					
Asn	Leu	Ile	Gln	Ser	Met	Asp	Ser	Ser	Ser	Arg	Gln	Tyr	Arg	Glu	Lys	
465					470					475					480	
Leu	Lys	Gln	Val	Glu	Glu	Tyr	Met	Gln	Tyr	Arg	Lys	Leu	Pro	Ser	His	
				485					490					495		
Leu	Arg	Asn	Lys	Ile	Leu	Asp	Tyr	Tyr	Glu	Tyr	Arg	Tyr	Arg	Gly	Lys	
			500					505						510		
Met	Phe	Asp	Glu	Arg	His	Ile	Phe	Arg	Glu	Val	Ser	Glu	Ser	Ile	Arg	
		515					520					525				
Gln	Asp	Val	Ala	Asn	Tyr	Asn	Cys	Arg	Asp	Leu	Val	Ala	Ser	Val	Pro	
	530					535					540					
Phe	Phe	Val	Gly	Ala	Asp	Ser	Asn	Phe	Val	Thr	Arg	Val	Val	Thr	Leu	
545					550					555					560	
Leu	Glu	Phe	Glu	Val	Phe	Gln	Pro	Ala	Asp	Tyr	Val	Ile	Gln	Glu	Gly	
				565					570					575		
Thr	Phe	Gly	Asp	Arg	Met	Phe	Phe	Ile	Gln	Gln	Gly	Ile	Val	Asp	Ile	
			580					585					590			
Ile	Met	Ser	Asp	Gly	Val	Ile	Ala	Thr	Ser	Leu	Ser	Asp	Gly	Ser	Tyr	
		595					600					605				
Phe	Gly	Glu	Ile	Cys	Leu	Leu	Thr	Arg	Glu	Arg	Arg	Val	Ala	Ser	Val	
	610					615					620					
Lys	Cys	Glu	Thr	Tyr	Cys	Thr	Leu	Phe	Ser	Leu	Ser	Val	Gln	His	Phe	
625					630					635					640	
Asn	Gln	Val	Leu	Asp	Glu	Phe	Pro	Ala	Met	Arg	Lys	Thr	Met	Glu	Glu	
				645					650					655		
Ile	Ala	Val	Arg	Arg	Leu	Thr	Arg	Ile	Gly	Lys	Glu	Ser	Ser	Lys	Leu	
			660					665					670			
Lys	Ser	Arg	Leu	Glu	Ser	Pro	Thr	Ile	Arg	Asp	Thr	Ala	Pro	Leu	Phe	
		675					680					685				

Pro Ile Pro Pro Asp Thr Pro Ser Phe Val Thr Asp Ile Glu Lys Asn
690 695 700

Arg Phe Phe Gly Asp Asp Thr Asp Asp Val His Ile Arg Thr Arg Val
705 710 715 720

Asp Val Glu Arg Gly Ser His Glu Asn Val Ile Ala Ile Met Asp Gly
725 730 735

Ser Leu Ser Asp Leu Arg Met Glu Asn Glu Ile Gln Ala Arg Lys Ser
740 745 750

Ser Ser Gly Lys Arg Arg Lys Phe Gln Gln Gln Thr Thr Glu Leu
755 760 765

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<212> PRT
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<220>
<223> Synthetic

<400> 19

Thr Trp Ala Leu Phe Lys Ala Leu Ser His Met Leu Cys Ile Gly Tyr
1 5 10 15

Gly Lys Phe Pro Pro Gln Ser
20

<210> 20
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<212> PRT
<213> Artificial

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<400> 20

Pro Asp Ala Phe Trp Trp Ala Val Val Thr Met Thr Thr Val Gly Tyr
1 5 10 15

Gly Asp Met Thr Pro Val Gly
20